

**REMARKS**

Thorough examination of the application is sincerely appreciated.

According to the Office Action, claims 14, 15, 17, 18, 23, 24 and 26-29 were rejected under 35 USC 101. In response, Applicant cancels claims 14, 15, 17 and 18, thereby obviating the rejections. Further in response, Applicant amends claim 23 without conceding any statements or waiving any arguments in the Office Action. Withdrawal of the rejection is respectfully requested.

If the examiner still disagrees and maintains the rejection of claims 23, 24 and 26-29 under 35 USC 101, he is respectfully requested to review the following cases for clarification: *In re Warmerdam*, 33 F.3d 1354 (Fed. Cir. 1994), *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994), *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995), and the USPTO Guidelines on the statutory subject matter under 35 USC 101.

Further according to the Office Action, claims 1, 2, 4-9, 11, 12, 14, 15, 17, 18, 20, 21, 23, 24 and 26-29 were rejected under 35 USC 112. In response, Applicant amends claims without conceding any statements or waiving any arguments in the Office Action. Withdrawal of the rejections is respectfully requested, as the claims now fully comply with 35 USC 112.

Still further according to the Office Action, claims 1, 4-8, 11, 14, 17, 20, 23 and 26-29 were rejected under 35 USC 103(a) as being obvious over U.S. Patent 6,662,337 (hereinafter “Brink”) in view of U.S. Patent US 5,931,965 (hereinafter “Alamouti”).

In response, the rejections are respectfully traversed as lacking sufficient factual support and failing to establish a prima facie case of obviousness in accordance with the established cases and statutory law.

In the Office Action, the Examiner asserted that Brink teaches Applicant's feature of "the receiver comprising a demapper for demapping the received multilevel signal according to the signal constellation, wherein the signal constellation comprises  $2^m$  signal points with corresponding labels" as recited in claim 1. For such disclosure, the examiner relied on Brink's Figs. 5-7.

Applicant's representative has carefully reviewed Brink as relied upon in the Office Action. It is respectfully submitted that nowhere does Brink teach or suggest the above feature of Applicant's invention. Brink merely discloses that M bits are grouped together and mapped onto a complex signal constellation by a mapper 8, according to the applied modulation scheme. However, Brink does not teach or suggest a demapper as recited in Applicant's claim 1. There is not even a mention of the signal constellation with reference to the demapper or receiver in Brink.

It is noted that the examiner failed to indicate where in Brink's description such alleged disclosure is found. The examiner broadly and impermissibly referred to Brink's Figs. 5-7 without any supporting text.

If the examiner still believes otherwise and maintains the rejection based on the same prior art rejections, he is respectfully requested 1) to specifically point out where such a disclosure can be found in Brink; 2) to provide a personal affidavit stating the facts within his personal knowledge; or 3) to provide an affidavit from a skilled artisan stating the same. In the absence of providing such evidence for Applicant's review and analysis, the rejections can't be properly maintained.

With respect to Alamouti, it appears that the examiner interprets Alamouti based on his personal knowledge, because no specific portions of the patent is ever relied upon or cited for

support throughout the extensive and hypothetical discussion in the Office Action. If this is the case, then “particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.” In re Kotzab, 1371. The MPEP provides guidelines for relying on official notice and personal knowledge, which the Examiner did not follow in this case:

The rationale supporting an obviousness rejection may be based on common knowledge in the art of “well-known” prior art. The examiner may take official notice of facts outside of the record which are capable of instant and unquestionable demonstration as being “well-known” in the art ...

When a rejection is based on facts within the personal knowledge of the examiner, the data should be stated as specifically as possible, and the facts must be supported, when called for by the applicant, by an affidavit from the examiner. Such an affidavit is subject to contradiction or explanation by the affidavits of the applicant and other persons.

See MPEP §2144.03. If the rejection is maintained, it is respectfully requested that the examiner provide an affidavit stating facts within his personal knowledge or an affidavit by a skilled artisan.

It is respectfully submitted that the Examiner failed to establish a *prima facie* case of obviousness. The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. 103 is set forth in MPEP § 706.02(j):

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Therefore, if the above-identified criteria are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

Analyzing the references according to the above roadmap, first the examiner offered an unsupported, conclusory remark that “therefore it would be obvious ...” It is not clear what the basis was for such an assertion. There is absolutely no motivation or suggestion to combine the references, except on the basis of the impermissible hindsight and knowledge gleaned from Applicants’ invention. Such a practice is prohibited by the applicable law. Picking and choosing elements from various references, while disregarding each reference as a whole, is clearly prohibited by the courts and cannot possibly be sanctioned by the USPTO.

Second, the examiner failed to indicate a reasonable expectation of success and whether the prior art references are combinable.

Third, Brink and Alamouti, even when combined, do not teach all of the Applicant’s features as recited in claim 1. Please see the above discussion on Applicant’s demapper, for example, as well as other features not found in Brink and Alamouti. The Applicant’s features are not taught or suggested in the prior art references, and their combination is deficient in teaching or suggesting all the claim limitations.

Therefore, the cited references, separately or in combination, fail to render obvious the claimed invention, because at least one of the above-identified criteria is not met. The claimed invention, according to claim 1, is thus distinguishable over the cited references.

At least for the above reasons, Applicant submits that the rejection of claim 1 has been overcome and can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claim.

Analysis of independent claims 8, 11, 20 and 23 is analogous to the one of claim 1, as presented hereinabove. To avoid repetition, claims 8, 11, 20 and 23 will not be discussed in detail with the understanding that they are patentable at least for the same reasons as claim 1. Applicants, therefore, respectfully request withdrawal of the rejection and allowance of claims 8, 11, 20 and 23.

Claims 2, 4-7, 9, 12, 21, 24 and 26-29 depend from independent claims, which have been shown to be allowable over the prior art references. Accordingly, claims 2, 4-7, 9, 12, 21, 24 and 26-29 are also allowable by virtue of their dependency, as well as the additional subject matter recited therein. Applicant submits that the reason for the rejection of claims 2, 4-7, 9, 12, 21, 24 and 26-29 has been overcome and respectfully requests withdrawal of the rejection and allowance of the claims.

An earnest effort has been made to be fully responsive to the Examiner's correspondence and advance the prosecution of this case. In view of the above amendments and remarks, it is believed that the present application is in condition for allowance, and an early notice thereof is earnestly solicited. However, if for any reason this application is not considered to be in condition for allowance, the Examiner is respectfully requested to call the undersigned attorney at the number listed below prior to issuing a further Action.

Please charge any additional fees associated with this application to Deposit Account No. 14-1270.

Respectfully submitted,

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914-333-9602

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